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Positioning inquiry: The place for Inquiry in Years 7 - 10

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- Looks to develop collaborative ventures with other institutions and providers, initiating research and innovation combined with the implementation of new projects and programs for the benefit of students, staff and the broader community
- Shares current research and issues with parents, professional bodies and educators around the globe through ongoing symposia, forums, lectures and conferences

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As a leader in Christian education, Barker College aims to both demonstrate and inform best practice. This journal was developed to showcase a range of initiatives and research projects from across the School. It explains the rationale behind innovations in practice and archives pivotal developments in Barker's academic, co-curricular and pastoral realms.

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Abstract

Barker College is currently moving towards a formalised inquiry program in the high school, beginning with Year 7 in 2019. This article provides an overview of the shape of inquiry in the Secondary School, including the links between the Primary Years Program (PYP) in the Junior School, the use of the guided inquiry framework and supporting strategies such as blended learning, formative assessment, Writing across the School (WATS), and other key initiatives. This paper hopes to clarify the meaning of inquiry at Barker and open a channel of dialogue amongst colleagues and the community.

Key Terms

Blended Learning

Combination of the best elements of online and face-to-face (F2F) learning (Horn & Staker, 2015).

Inquiry

An act or an instance of "seeking for truth, information, or knowledge; investigation; research; or a question or query" (Webster's Third International Dictionary, 1986, p. 1167, cited in Barrow, 2006).

Student Centred Learning

Student-centred ideology relies on active and deep learning where students are directly involved and invested in the discovery of their own knowledge (Nave, 2015).

Positioning inquiry

The literature is awash with claims that education is embarking on a new era of student-centred learning where information and communicative technologies (ICT) are leveraged to deliver authentic, meaningful, student-driven teaching and learning programs (Baeten, Dochy, Struyven, Parmentier, & Vanderbruggen, 2016; Horn & Staker, 2015; Jacobs, Renandya, Power, & SpringerLink, 2016).

The goal is that through student-centred education, students will develop skills around problem solving, innovative thinking, resourcefulness and resilience – the skills required to meet the unknown demands for their future.

While these claims show great promise, this approach requires careful planning and strategy in order to be successful in a practical sense (Lee & Hannafin, 2016). This paper aims to address this by using a well-structured inquiry-based model of teaching and learning (Chu, Reynolds, Tavares, Notari, Lee, 2017), which will complement existing teaching and learning practices present at Barker College. This structure will be implemented slowly across Years 7-10, beginning with Year 7 in 2019. The model is built on the concept of Inquiry, one of the four pillars that make up the Thriving at Barker model (Barker College, 2018).

The authors are aware that some of the research literature is critical of inquiry-based approaches to learning (Hattie, 2012). Inquiry learning is often criticised for undervaluing subject knowledge and overlooking the value of explicit teaching. At Barker, we do not see these approaches as mutually exclusive. Effective inquiry learning rests on students being knowledgeable and being open to seeking deeper knowledge through asking questions. The International Baccalaureate Learner Profile seeks for learners to be open minded, principled inquirers and risk takers. None of these things can be achieved without deep knowledge. In a recent study, Mourshed, Krawitz, and Dorn (2017) referred to a learning ‘sweet spot’, where inquiry learning and explicit teaching meet. At Barker College we seek to take advantage of this sweet spot by providing learners with expert teachers and many opportunities for them to find answers to their questions.

Inquiry in Years 7 - 10

The Thriving at Barker handbook (Barker College, 2018) says this about inquiry:

The Barker approach to Inquiry seeks to enrich and extend students as they move to the more subject-based setting of Middle and Senior schools. A feature of the curriculum in Years 7 to 10 will be units of inquiry that connect and enrich subjects through shared content and concepts. These units will be delivered in a Blended Learning environment that allows students to work at their own pace with the guidance of their teachers (p. 6)

Throughout 2018, the authors (with the support of additional key personnel at the School) sought to develop this approach by articulating a set of elements which include a:

- Set of key inquiry attitudes and related skills
- Transdisciplinary aim for inquiry units
- Focus on student-agency and action.

These elements purposely align with the core features of the Junior School Primary Years Program (PYP) model of inquiry but are different enough to allow for appropriate learning in Years 7-10. The following section outlines these features.

Attitudes

Student attitudes to learning are important as they shape the learning environment and the interactions that occur within. The following attitudes are ones which the inquiry program will seek to foster. It is important for students to become familiar with these attitudes and to become aware of their individual strengths and weaknesses. Table 1 outlines the attitudes.

curious, courageous, resourceful, open-minded, flexible, persistent, resilient, responsible, reflective, reliable, confident, responsive, respectful.

Table 1: Attitudes

Skills

The inquiry model promotes a common set of transdisciplinary skills, grouped into the five domains: thinking, researching, self-management, communication and collaborating. These skills will guide students to strengthen the attitudes listed above. Table 2 lists the domains and associated skills. Along with attitudes, the foregrounding of skills offers a bird's eye view of the curriculum by asking, what do we value in learning and what do we want students to value? One key aim of the inquiry program is to develop these skills and attitudes consistently and explicitly over time.

| Thinking | Researching | Self-management | Communication | Collaborating |
|---------------|-------------|-----------------|---------------|---------------|
| Empathise | Summarising | Goals | Form | Contribution |
| Wondering | Planning | Resilience | Presenting | Sharing |
| Ideation | Sourcing | Feedback | Writing | Respecting |
| Evaluating | Quality | Self-awareness | Creation | Group-work |
| Metacognition | Generating | Context | Engaging | Purpose |

Table 2: Inquiry skills

Transdisciplinary Concepts

This element draws out the importance of making connections within a topic and looking beyond the boundaries of one subject or discipline. This may appear through the encouragement of cross-disciplinary collaboration or projects but might also simply result in a student drawing on skills and concepts from different disciplines in the making of learning artefacts.

Choice and Action

Finally, the resulting action should be student-driven, encompassing some element of student choice in either the specific area of inquiry or the method of communicating understanding. The action should be meaningful, allowing students to build on their existing skills and areas of interest.

Supporting Inquiry

In order to ensure teachers and students have enough support to navigate through the inquiry environment, the inquiry program will draw on the structure of Guided Inquiry Design (GID; Kuhlthau, Maniotes, & Caspari, 2015) supported by blended learning strategies (Horn & Staker, 2014) and spaces (Thornburg, 1999).

Guided Inquiry

GID provides a carefully planned, closely supervised targeted intervention of an instructional team to guide students through curriculum-based inquiry units that build deep knowledge and deep understanding of a curriculum topic, and gradually lead towards independent learning (CISSL, 2005). It is grounded in a constructivist approach to learning, based on the Information Search Process (Kuhlthau, 2004). Essentially, it is a structured way to do inquiry within a sequence of teaching and learning activities.

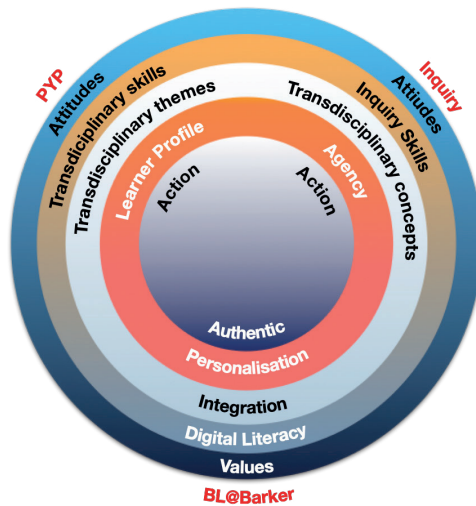
GID provides teachers with a planning framework built up of eight phases:

1. Open
2. Immerse
3. Explore
4. Identify
5. Gather
6. Create
7. Share
8. Evaluate

This established structure not only assists the planning and delivery of inquiry units, it also allows students and teachers to begin to establish a common language and procedure around the process of inquiry.

Blended Learning

Supporting inquiry in the Junior School and 7-10, in the BL@Barker model (Stewart, Temlett, Mifsud, & Harmon, 2017). This model supports the aims of an inquiry program by leveraging a blended learning approach to enable the development of authentic, personalised and integrated learning activities. Figure 1 illustrates the links that occur between the PYP, 7-10 inquiry and the BL@Barker model.



There is a strong alignment with the aims of both 7-10 inquiry and BL@Barker, apparent in the aim to create meaningful and authentic learning experiences for each learner. Chu et al. (2017) provides a strong argument for the use of learning technologies to facilitate student voice and choice in learning activities. Further examples of these alignments can be seen in Table 3.

| Blended Learning | Inquiry |
|---|---|
| Values: Appropriate use of technology and devices, being responsible and respectful. An understanding of digital citizenship skills | Attitudes: Curious, courageous, resourceful, open-minded, flexible, persistent, resilient, responsible, reflective, reliable, confident, responsive, respectful. |
| Digital Literacy: Set of digital skills required to complete learning tasks. | Inquiry Skills: Set of skills that can develop inquiry skills. |
| Integration: An understanding that technology tasks need to be fully integrated into the learning outcomes, bringing in appropriate resources and tools. | Transdisciplinary Concepts: Making connections, looking beyond the boundaries of one subject or discipline. |
| Personalisation: Using technology to control the time, place, pace and mode of learning. | Agency: Providing students with choice, building on past experiences. |
| Authentic: Using technology to provide authentic learning experiences. | Action: Engaging students in meaningful and transformative action. |

Table 3: Alignments between BL@Barker and 7-10 inquiry

In a practical sense, the learning management system, Canvas, will be used to house key information for each phase of the guided inquiry unit, using a purpose-built inquiry template (see Figure 2). Using Canvas in this way allows for several potential benefits as the platform provides:

- A uniform experience for students and teachers
- An ability to link common resources used to develop inquiry skills, for example, writing strategies, note-taking, methods for analysing data, ideas to create engaging presentations, etc.
- An ability to link to common scaffolds and teaching tools, for example visible thinking routine worksheets or scaffolds for evaluating the quality of resources
- Opportunities for personalisation of content
- Additional avenues for collaboration within and across departments and year levels
- An ability to provide informal formative assessment of skills throughout a unit by utilising outcomes and rubrics
- An ability to share the data of inquiry skills across departments and year levels.

Using Canvas in this way not only acts as a support mechanism for teachers and students new to the inquiry process, but also provides an example of best-practice in blended learning online course design and in-class strategies.

Open **Immerse** **Explore** **Identify** **Gather** **Create** **Share** **Evaluate**

Inquiry Question

What does it mean to be an *inquirer*?

In this phase, you will need to develop the following skills:

- comprehension
- mindmapping
- evaluating
- communication
- [note taking](#)

Open

Blended Environments

Blended learning offers an additional contribution through recent work encouraging teachers to challenge existing notions of the classroom environment in favour of adopting a flexible style that adapts to match a specific learning purpose. The blended learning teacher learning community (TLC) in 2018 was based on the concept of blended spaces (Thornburg, 1999), in which a classroom is viewed as both a physical and online environment, separated into four distinct categories:

1. Campfire: A place where students can learn from an expert
2. Watering hole: A collaborative environment that thrives on many:many communication (Dawson, 2018)
3. Cave: A place for individual work or reflection
4. Mountain top: An environment that allows a celebration of achievement.

The blended spaces ideology does not place greater emphasis on one space or another, rather it focuses on fluidity between spaces throughout a unit, week or even lesson. In the same way, the role of the teacher within an inquiry unit will flexibly switch from direct instruction, to facilitation of understanding, to coaching and guiding (Wiggins & McTighe, 2007). It is therefore incongruent for inquiry units to rely solely on any one mode of instruction or learning environment.

Conclusion

Inquiry-based learning offers many solutions to meet the demands of 21st and indeed 22nd century learners. This paper provides a clear model that identifies the key attitudes, skills and actions of student inquirers, and establishes a network of supporting tools to deliver this program, from guided inquiry design, to blended learning. The inquiry teacher too must develop skills in adapting teaching style and online and physical environment to best support the demands of their students.

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